

In the Claims

1. (Currently amended) A computer implemented method of verifying events generated by an agent, said method comprising:

5 detecting a stimulus at an input of said agent;
determining whether generation of an event by said agent in response to said stimulus is conditional;
creating an expectation of said event based at least in part on said stimulus, wherein said agent is expected
10 to generate said event;

indicating that said expectation is speculative if said generation of said event is conditional, so that said expectation is a speculative expectation;

converting said speculative expectation to a non-
15 speculative expectation if conditions indicate that said event should be generated by said agent;

deleting said speculative expectation if said conditions indicate that said event should not be generated by said agent;

20 if said speculative expectation was converted to a non-speculative expectation, verifying whether said non-speculative event was ~~appropriately~~ generated by said agent, ~~and~~ signaling an error if said non-speculative event was not ~~appropriately~~ generated by said agent;

25 if said speculative expectation was deleted, verifying whether said deleted speculative expectation was generated by said agent and signaling an error if said deleted speculative expectation was generated by said agent.

30 2. (Previously presented) The method of claim 1, said determining whether said generation of said event is

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conditional comprising determining that said generation is conditional if said stimulus is a response containing an unmodified copy of requested data and other sources accessible by said agent may contain a modified copy of said requested data.

3. (Previously presented) The method of claim 1, said determining whether said generation of said event is conditional comprising determining that said generation is conditional if said stimulus comprises a local read request response by a memory local to said agent.

4. (Original) The method of claim 1, further comprising determining whether said event is expected based at least in part on said stimulus before creating said expectation of said event.

5. (Previously presented) The method of claim 1, further comprising determining whether all snoop responses have been received by said agent before said determining whether said generation is conditional.

6-7. (Cancelled)

8. (Currently amended) The method of claim ~~7~~ 1, wherein said conditions indicating that said event should be generated by said agent comprise said agent receiving all expected snoop responses, said expected snoop responses containing no modified data.

9. (Cancelled)

10. (Currently amended) The method of claim ~~9~~ 1, wherein

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said conditions indicating that said event should not be generated by said agent comprise said agent receiving a snoop response containing modified data.

11. (Previously presented) The method of claim 1, said
5 verifying comprising:

detecting said event at an output of said agent; and
checking said expectation to verify whether said
agent correctly generated said event.

12. (Previously presented) The method of claim 1, said
10 verifying comprising:

detecting an outgoing event at an output of said
agent; and
checking a list of expectations of events to verify
whether said agent correctly generated said outgoing
15 event.

13. (Original) The method of claim 1, wherein said
generation of said event is conditional, said method further
comprising:

20 detecting an outgoing event at an output of said
agent; and
storing an indication that said outgoing event
occurred in said speculative expectation.

14. (Original) The method of claim 13, further comprising:

25 detecting information at said input of said agent
indicating that said event corresponding to said
speculative expectation should not be generated by said
agent; and

signaling an error indicating that said outgoing
event should not have occurred.

15. (Currently amended) An apparatus for verifying events whose performance by a memory agent is conditional, comprising:

a. at least one physical computer readable medium; and
5 b. computer readable program code stored on said at least one computer readable medium, said computer readable program code comprising:

i. program code for reading an input signal at an input of said memory agent;

10 ii. program code for generating a speculative expectation for an output signal based on said input signal, wherein said memory agent is expected to generate said output signal if at least one condition is satisfied;

15 iii. program code for reading at least one additional input signal at said input to determine whether said at least one condition is satisfied;

20 iv. program code for promoting said speculative expectation to a non-speculative expectation if said at least one condition is satisfied;

v. program code for deleting said speculative expectation if said at least one condition is not satisfied;

25 ~~vi.~~ vi. program code for verifying whether said output signal is ~~appropriately~~ generated; and

30 ~~vi.~~ vii. program code for signaling an error if said output signal was not appropriately generated and said at least one condition was satisfied and for signaling an error if said output signal was generated and said at least one condition was not satisfied.

16. (Original) The apparatus of claim 15, wherein said input signal comprises a local read response containing an

unmodified copy of requested data.

17. (Cancelled)

18. (Currently amended) The apparatus of claim ~~17~~ 15, said
program code for deleting said speculative expectation
5 comprising program code for deleting said speculative
expectation if said memory agent receives a modified copy of
requested data.

19. (Original) The apparatus of claim 15, wherein said
condition comprises said memory agent receiving all expected
10 snoop responses, none of which contain a modified copy of
requested data.

20. (Currently amended) An apparatus for testing the
operation of a memory agent, said apparatus comprising
tangibly embodied electronically executable instructions, said
15 apparatus comprising:

means for generating a speculative expectation of an
event to be conditionally generated by said memory agent;

means for determining whether at least one condition
is satisfied indicating that said memory agent should
20 generate said event;

means for promoting said speculative expectation to
a non-speculative expectation if said condition is
satisfied;

means for deleting said speculative expectation if
25 said condition is not satisfied;

means for verifying whether said event was
~~appropriately~~ generated by said memory agent, thereby
testing said operation of said memory agent; and

means for signaling an error if said event was not

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~~appropriately~~ generated by said memory agent and said condition was satisfied and for signaling an error if said event was generated by said memory agent and said condition was not satisfied.